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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,334	12/05/2003	Koji Hamaguchi	559502000300	1124
25226	7590	01/07/2005	EXAMINER	
MORRISON & FOERSTER LLP 755 PAGE MILL RD PALO ALTO, CA 94304-1018			LE, THONG QUOC	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/729,334

Applicant(s)

HAMAGUCHI, KOJI

Examiner

Thong Q. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-16 is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

1. Claims 1-16 are presented for examination.

***Information Disclosure Statement***

2. This office acknowledges receipt of the following items from the Applicant:  
Information Disclosure Statement (IDS) filed on January 15, 2004.
3. Information disclosed and list on PTO 1449 was considered.

***Priority***

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Specification***

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Objections***

7. Regarding claim 3, lines 4, 6, should be changed "first monitor cells" to –first monitor cell--. As defined in claim 2.
8. Regarding claims 5-6 should be changed "second monitor cells" to –second monitor cell--. As defined in claim 2.

***Claim Rejections - 35 USC § 112***

9. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
10. Regarding claim 2, the phrase "or a second monitor cell" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or "), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

In line 2, claim discloses "or a second monitor cell". It is unclear that a second monitor cell is disclosed in claim or not. However, lines 4-5, the second monitor cells is used.

Claim should be amended for more clearly.

Line 5, should be changed "monitor cells" to –monitor cell—as defined in lines 2-

3.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Takano (U.S. Patent No. 5,966,332).

Regarding claims 1-2, Takano discloses a semiconductor memory device (Figure 10) comprising:

a plurality of memory cells (122), each of which is capable of storing N- level data (N represents a natural number of 2 or greater) and being reprogrammed;

a plurality of monitor cells (Column 14, lines 12-20) that separately store individual data values of the N-level data by using the same scheme as that used by the memory cells;

sensing means (Column 14, lines 1- 20) for sensing whether a physical quantity of the monitor cell which corresponds to the data value stored in the monitor cell is within a preset range; and

verification means (Figure 15, S20) for verifying whether the physical quantity of the memory cell which corresponds to the data value stored in the memory cell is within the preset range when the sensing means has sensed that the physical quantity of the monitor cell is out of the preset range.

Regarding claim 2, Takano discloses wherein the monitor cells include at least a first monitor cell or a second monitor cell, the first monitor cell monitoring deteriorations caused in read operations (Column 14, lines 28-50) for data retention states of the memory cells, and the second monitor cells monitoring time-dependent deteriorations of the data retention states of the memory cells (Column 12, lines 8-25).

***Allowable Subject Matter***

13. Claims 3-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 3-11 include allowable subject matter since the prior art made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Takano (U.S. Patent No. 5,966,332), and others, does not teach the claimed invention having a semiconductor memory device is configured such that stress influencing the deteriorations of the data retention states, which stresses occur with the read operations, on the first monitor cells are greater than the stress on the stresses on the memory cells which are monitoring target of the first monitor cell.

14. Claims 12-16 are allowed.

Claims 12-16 include allowable subject matter since the prior art made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Takano (U.S. Patent No. 5,966,332), and others, does not teach the claimed invention having a correction method comprising correcting the physical

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quantity of the memory cell to be within the preset range when the physical quantity of the memory cell has been verified to be out of the preset range.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Le whose telephone number is 571-272-1783.

The examiner can normally be reached on 8:00am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thong Q. Le  
Primary Examiner  
Art Unit 2818

**THONG LEI**  
**PRIMARY EXAMINER**